

CLAIMS

1. A resin compound used for fabricating an interlayer dielectric of a printed wiring board, wherein the resin compound has a composition comprising an epoxy based resin which includes an epoxy resin curing agent having 5 to 25% by weight of nitrogen and maleimide compounds which have thermosetting properties and being free of halogen elements, and that the resin compound is formed by dissolving the composition in an organic solvent.

2. The resin compound used for fabricating the interlayer dielectric of the printed wiring board as set forth in Claim 1, wherein the epoxy-based resin comprises epoxy resins having two or more glycidyl groups per molecule and polymers having crosslinkable functional groups within a molecule and a crosslinker which is added as necessary, and a phenol novolak epoxy resin curing agent containing triazine rings within a molecule.

3. The resin compound used for fabricating the interlayer dielectric of the printed wiring board as set forth in Claim 2, wherein the epoxy resins having two or more glycidyl groups per molecule are free of halogen elements and are any one or more of bisphenol A epoxy resin, bisphenol F epoxy resin, novolak epoxy resin, cresol novolak epoxy resin, and glycidylamine epoxy resin.

4. The resin compound used for fabricating the interlayer dielectric of the printed wiring board as set forth in Claims 2 or 3, wherein the polymers having crosslinkable functional groups within a molecule are any one or more of polyether sulfone resin having a hydroxyl group at a terminal, polyvinyl acetal resin having repeated hydroxyl groups within a molecule, and phenoxy resin.

5. The resin compound used for fabricating the interlayer dielectric of the printed wiring board as set forth in any of Claims 2 to 4, wherein the phenol novolak epoxy resin curing agent containing triazine rings within a molecule comprises one or two of melamine and benzoguanamine and a compound obtained from a condensation reaction with phenols and formaldehydes and has 5 to 25% by weight of nitrogen content.

6. The resin compound used for fabricating the interlayer dielectric of the printed wiring board as set forth in any of Claims 2 to 5, wherein the maleimide compounds having thermosetting properties are any one or more of N,N'-(4,4-diphenylmethane)bismaleimide, bis(3-ethyl-5-methyl-4-maleimidephenyl)methane, 2,2-bis[4-(4-maleimidephenoxy)phenyl]propane, and thermosetting maleimide compounds obtained from Michael addition reaction of these maleimide compounds and polyamines.

7. A method for producing the resin compound used for fabricating the interlayer dielectric of the printed wiring board as set forth in any of Claims 1 to 6, wherein a composition is made to have 20 to 70 parts by weight of epoxy resins, 5 to 30 parts by weight of polymers having crosslinkable functional groups within a molecule, 10 to 50 parts by weight of maleimide compounds having thermosetting properties, and a balance being a crosslinker added as necessary and a phenol novolak epoxy resin curing agent containing triazine rings within a molecule given that a total amount of the resin compound excluding a solvent is 100 parts by weight, and that a solids content after the composition is added to and dissolved in the solvent becomes 40 to 50% by weight.

8. The method for producing the resin compound used for fabricating the interlayer dielectric of the printed wiring board as set forth in Claim 7, wherein the solvent is a mixed solvent of N-methylpyrrolidone and methyl ethyl ketone, the mixing ratio of N-methylpyrrolidone/methyl ethyl ketone being in a range of 50/50 to 40/60 (by weight).

9. A resin sheet for forming an insulating layer used for manufacturing a copper-clad laminate, wherein the resin compound for fabricating the interlayer dielectric of the printed wiring board as set forth in Claims 1 to 6 is made into a sheet which is in a semi-cured state.

10. A resin applied-copper foil constituted by forming a resin layer on a surface of copper foil employing the resin compound for fabricating the interlayer dielectric of the printed wiring board as set forth in any of Claims 1 to 6.

11. The copper-clad laminate manufactured by the use of the resin sheet for forming the insulating layer as set forth in Claim 9.

12. The copper-clad laminate manufactured by the use of the resin applied-copper foil as set forth in Claim 10.